ARTICLE 34 AMENDMENTS

CLAIMS

1. An expression vector,

which comprises: (a) a first coding region encoding a polypeptide having molecular chaperone activity, and

(b) a region having at least one restriction enzyme site in which a second coding region encoding a protein can be inserted,

the first coding region being operatively linked to a promoter, and the restriction enzyme site being in the same reading frame as the first coding region, and being downstream of the first coding region.

2. An expression vector,

which comprises: (a) a first coding region encoding a polypeptide having molecular chaperone activity, and

(b) a region having at least one restriction enzyme site in which a second coding region encoding a protein can be inserted,

the restriction enzyme site being disposed so that the inserted second coding region is operatively linked to a promoter, and the first coding region being in the same reading frame as the second coding region, and being downstream of the second coding region.

3. The expression vector according to claim 1 or 2,

which has a region being between the first coding region and the region having at least one restriction enzyme site in which the second coding region can be inserted, and being translated in the same reading frame to be a protease digestion site.

4. An expression vector,

wherein a second coding region encoding a protein is inserted into the expression vector according to claim 1, 2

or 3.

5. The expression vector according to claim 1, 2, 3 or 4,

wherein the polypeptide having molecular chaperone activity is PPIase having molecular chaperone activity.

6. The expression vector according to claim 5, wherein the PPIase having molecular chaperone activity is FKBP-type PPIase.

7. The expression vector according to claim 5, wherein the PPIase having molecular chaperone activity is cyclophilin-type PPIase.

8. The expression vector according to claim 5, wherein the PPIase having molecular chaperone activity is parvulin-type PPIase.

9. The expression vector according to claim 6, wherein the FKBP-type PPIase is archaebacterial FKBP-type PPIase.

10. The expression vector according to claim 9, wherein the archaebacterial FKBP-type PPIase is short type FKBP-type PPIase.

11. The expression vector according to claim 5, 6, 7 or 8,

wherein the PPIase having molecular chaperone activity comprises an IF domain and/or a C-terminal domain of archaebacterial FKBP-type PPIase.

12. The expression vector according to claim 6, wherein the FKBP-type PPIase is trigger factor-type

PPIase.

13. The expression vector according to claim 5, 6, 7 or 8,

wherein the PPIase having molecular chaperone activity comprises a N-terminal domain and/or a C-terminal domain of trigger factor-type PPIase.

14. The expression vector according to claim 6,

wherein the FKBP-type PPIase is FkpA-type PPIase.

15. The expression vector according to claim 5, 6, 7 or 8,

wherein the PPIase having molecular chaperone activity comprises a N-terminal domain of FkpA-type PPIase.

16. The expression vector according to claim 6,

wherein the FKBP-type PPIase is FKBP52-type PPIase.

17. The expression vector according to claim 5, 6, 7 or 8,

wherein the PPIase having molecular chaperone activity comprises a C-terminal domain of FKBP52-type PPIase.

18. The expression vector according to claim 7,

wherein the cyclophilin-type PPIase is CyP40-type PPIase.

19. The expression vector according to claim 5, 6, 7 or 8,

wherein the PPIase having molecular chaperone activity comprises a C-terminal domain of CyP40-type PPIase.

20. The expression vector according to claim 8,

wherein the parvulin-type PPIase is SurA-type PPIase.

21. The expression vector according to claim 5, 6, 7 or 8,

wherein the PPIase having molecular chaperone activity comprises a N-terminal domain of SurA-type PPIase.

22. The expression vector according to claim 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 or 21,

wherein the second coding region has a nucleotide sequence encoding a monoclonal antibody.

23. The expression vector according to claim 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 or 21,

wherein the second coding region has a nucleotide sequence encoding a membrane protein.

24. A host,

which contains the expression vector according to claim 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 or 23.

25. The host according to claim 24,

which is Escherichia coli.

26. A fused protein,

which comprises a polypeptide having molecular chaperone activity and a protein encoded by a second coding region.

27. The fused protein according to claim 26,

which comprises a protease digestion site.

28. A process for producing a fused protein comprising a polypeptide having molecular chaperone

activity and a protein encoded by a second coding region,

which comprises culturing a host containing the expression vector according to claim 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 or 23 under condition of expression of the expression vector, and making express the fused protein in a cytoplasm.

29. A process for producing a fused protein comprising a polypeptide having molecular chaperone activity and a protein encoded by a second coding region,

which comprises providing a region being transcribed and translated to be a signal sequence at a 5' terminus of a first coding region or a 5' terminus of a second coding region of the expression vector according to claim 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 or 23, and culturing a host containing the expression vector under condition of expression of the expression vector to express the fused protein in a periplasm or a medium.

30. A process for producing a fused protein comprising a polypeptide having molecular chaperone activity and a protein encoded by a second coding region,

which comprises making the expression vector according to claim 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22 or 23 express the fused protein in a cell-free translation system.

31. The process for producing a fused protein according to claim 28, 29 or 30,

wherein a fused protein is adsorbed on a carrier harboring macrolide, cyclosporin, juglone or its analogous compound inhibiting PPIase activity, and then the carrier is recovered.

32. A process for producing a protein encoded by a second region,

which comprises digesting the fused protein obtained by the process according to claim 28, 29, 30 or 31 with a protease digesting a protease digestion site.